

Commissioner for Patents

REMARKS

Claims 2-5 and 9-15 are in the application.

Claims 2 and 14-15 are herein amended.

No new subject matter has been added.

Claim Rejections – 35 U.S.C. 102

Claims 2-6 and 9-15 are rejected under 35 U.S.C. 102(e) for being anticipated by Franck et al. This rejection is respectfully traversed for the following reasons.

Franck et al. teaches a system for determining the spatial position and orientation of a body. A tracking MIRRF 510 having a plurality of LEDs 550 and fiducial dots 540 is secured to the body. A probe 570 having LEDs 572 is used for a registration step which allows the position of the fiducial dots 540 to be determined. An instrument drive 1110 is then fixed on MIRRF 510. The instrument drive 1110 is provided with a plurality of LEDs including LED 742 which allows the position of a surgical instrument to be determined. By tracking the position of LED 742, the position of the end of the surgical instrument is displayed on a display.

The Examiner alleges the following: *"Franck et al. '765 (hereinafter Franck) teaches a passive optical interface apparatus [...] comprising: at least three passive detectable devices trackable for position by the tracking system and a mounting device for receiving the at least three passive detectable devices (fig. 5, ref. 510, 550, 570, 572)".*

LEDs 550 and 572 are part of two different devices, namely the MIRRF 510 and the probe 570, respectively. The probe 570 is not mechanically attached to the MIRRF 510. The probe is used during the registration step which consists in locating the position of the fiducial points. The surgeon touches the tip of the probe 570 to each one of the fiducial divots 540, indicating to the tracking system when he is touching each one of the fiducial divots 540. During the registration step, the known geometrical pattern of the LEDs 572 of the probe 570 allows the location of the probe tip to be determined by the tracking system. Furthermore, the tracking system also registers the location of the LEDs 550 and can then deduce the location of the fiducial points from the location of the LEDs 550.

Commissioner for Patents

LEDs 550 form a known and fixed geometrical pattern which allows the localization of the MIRRF 510. LEDs 572 also form a known and fixed geometrical pattern which allows the tracking of the position of the probe 570. However, as the probe 570 is not mechanically secured to the MIRRF 510, the combination of LEDs 550 and 572 do not form a known geometrical pattern which could be used for tracking a position. LEDs 572 have an infinite number of positions relative to the MIRRF 510, as the probe 570 in the fiducial point can freely move.

The same applies to LED 742 which has more than two stable positions relative to the body. The LED 742 is attached to the drive platform 1130 which moves along the threaded rod 1132. The drive platform 1130 is provided with a clamp 1133 to receive a surgical instrument and acts as a guidance fixture for the surgical instrument. The surgeon adjusts the position of the surgical instrument via the positioning screw 1122 and the tracking system displays the location of the end of the surgical instrument by tracking the location of the LED 742. Therefore, the drive platform 1130 has an infinite number of positions between the ends of the course along the threaded rod 1132 by adjusting the positioning screw 1122. The LED 742 is not limited to two stable positions relative to the body. The LEDs 730 form a fixed and known geometrical pattern used by the tracking system to localize the guidance fixture 1110. However, the combination of LEDs 730 and 742 do not form a known geometrical pattern to be used by the tracking system to localize a position and detect interactions from at most two stable positions as the LED 742 can take a plurality of fixed positions along the threaded rod 11320.

Regarding amended claims 14 and 15, Franck et al. teach that the displacement of the surgical instrument secured in the clamp 1133 of the drive platform 1130 is detected via the tracking of LED 742 (col. 16, lines 7-34). The position of the end of the surgical instrument is displayed on a display 610 as a function of the tracking of LED 742, to provide a visual feedback to the surgeon. The tracking system of Franck et al. only displays the variation of position of the end of the surgical instrument, and does not mention interpreting a variation of the position as an interaction response, that will cause the system to react by outputting a response unrelated to the variation of position of the object, i.e., as a click of a mouse. Franck et al. do not teach or suggest that the

Commissioner for Patents

displacement of the LED 742 could lead to an action other than the display of a variation of position on display 610.

The Applicant respectfully submits that Franck et al. do not teach all of the elements of amended claims 2, 14, and 15. Therefore, amended claims 2, 14, and 15 are believed to be novel and patentable in view of Franck et al.

Furthermore, the Applicant submits that claims 3-5 and 9-13 are also patentable over the cited reference for reasons similar to those provided above concerning amended claims 2, 14, and 15.

Conclusion

In view of the foregoing, the Applicant believes that all rejections have been overcome and early and favorable notice is earnestly solicited.

Respectfully submitted,
JANSEN, Herbert André

By:



May 27, 2008

(Date)

Pierre T. A.-NGUYEN (Reg. No. 55,043)
Agent of Record
OGILVY RENAULT LLP
1981 McGill College Avenue, Suite 1600
Montreal, Quebec, Canada H3A 2Y3
Tel.: (514)847-4243